

## **ESP Advanced Training Centre for Liver Pathology**

Pathology at Humanitas Research University Hospital, Rozzano (Milan), Italy

Liver biopsy is traditionally a cornerstone in the evaluation and management of patients with liver disease and is still considered to be an integral component of the clinician's diagnostic armamentarium. Nowadays, beside diagnostic purposes, assessment of prognosis as well as therapeutic management options represent additional indications for liver biopsy. Indeed, a close interaction between hepato-pathologists and clinicians is of paramount importance for the management of patients with liver disease.

The Liver pathology unit of Department of Pathology at the Humanitas Research Hospital and Humanitas University, Rozzano, (Milan), Italy is well integrated in a multidisciplinary team. This includes clinical hepatologists (Prof. Alessio Aghemo and Ana Lleo), hepato-biliary tract surgeons (Prof. Guido Torzilli, Luca Viganò and Matteo Donadon), radiologists (Prof. Luigi Solbiati) and oncologist (Prof. Armando Santoro and Lorenza Rimassa) each of which with a great body of expertise and internationally acknowledged.

The unit offers 3-6 months modules that cover all aspects of hepatopathology and that is based on the routine daily service supplemented with autoptic cases, consultation cases and cases from the archive. The fellow will be exposed to specimens from biopsies, surgical specimens and consultation cases encompassing a wide variety of liver diseases.

There is an excellent mix of non-neoplastic, and neoplastic case material. The importance of clinicopathologic correlation and consultation with our clinician colleagues is stressed; in particular non-neoplastic cases are discussed weekly at a during a digital-pathology meeting. The fellow will join to the educational duties of our residents, including formal presentation of cases and didactic presentations to the staff. In addition, research activity is warmly welcome.

The Liver pathology unit of Department of Pathology at the Humanitas Research Hospital and Humanitas University supports international visitors regarding all aspects of their visit, including support to find housing, visa items and letters of invitation.

Luigi Terracciano, Head of the Department and Director of Residency program, is an

internationally recognised expert in the field of liver and gastrointestinal pathology, with training in Italy, Switzerland and Austria. He is member of the International Liver Study Group (“The Gnomes”), European Study Liver Association (EASL) and Swiss Group of Gastrointestinal and Liver Pathology (SAGIP). He also publishes regularly in this area of expertise (a few references are included)

Massimo Roncalli, former head, is an internationally recognised expert in the field of liver pathology, with training in Italy and England. He is member of the Laennec International Liver Study Group and European Study Liver Association (EASL). He also publish regularly in this area of expertise (a few references are included).

Luca Di Tommaso is an internationally recognised expert in the field of liver pathology and digital pathology, with training in Italy. He is member of the Laennec International Liver Study Group and European Study Liver Association (EASL) and Italian Group of Gastrointestinal and Liver Pathology (GIPAD). He also publishes regularly in this area of expertise (a few references are included).

**Number of positions offered for each year, expected duration of the training**

2 fellows can be hosted per year, for a duration of 3-6 months each.

**Specific periods of the year when the visit may be realized**

Will be defined in direct contact (the summer period (July/August) can be more difficult

**Contact address for requesting details by the applicant:**

[luigi.terracciano@hunimed.eu](mailto:luigi.terracciano@hunimed.eu)

- We further declare that we meet the requirements to host a fellow:
- No charge for training
- Help in finding a low-cost accommodation
- Help in getting necessary visa, insurance or other documents if required
- After completion of the training period the trainee receives a detailed certificate describing the work
- We can provide a letter of invitation for the applicant

## Recently published papers

1. Quagliata L, Matter MS, Piscuoglio S, Arabi L, Ruiz C, Procino A, Kovac M, Moretti F, Makowska Z, Boldanova T, Andersen JB, Hämmerle M, Tornillo L, Heim MH, Diederichs S, Cillo C, Terracciano LM (2013) lncRNA HOTTIP / HOXA13 expression is associated with disease progression and predicts outcome in hepatocellular carcinoma patients. *Hepatology* Sep 20. Doi:10.1002/hep.26740.
2. Dill MT, Makowska Z, Duong FH, Merkofer F, Filipowicz M, Baumert TF, Tornillo L, Terracciano LM, Heim MH (2012) Interferon-g-Stimulated Genes, but not USP18, Are Expressed in Livers of Patients With Acute Hepatitis C. *Gastroenterology*, 143(3):777-86
3. Cillo C, Schiavo G, Cantile M, Bihl MP, Sorrentino P, Carafa V, D' Armiento M, Roncalli M, Sansano S, Vecchione R, Tornillo L, Mori L, De Libero G, Zucman-Rossi J, Terracciano LM (2011) The HOX gene network in hepatocellular carcinoma. *Int J Cancer*. 129(11):2577-87.
4. Volarevic S, Stewart MJ, Ledermann B, Zilberman F, Terracciano L, Montini E, Grompe M, Kozma SC, Thomas G (2000) Proliferation, but not growth, blocked by conditional deletion of 40S ribosomal protein S6. *Science* 288(5473):2045-7.
5. Tornillo L, Carafa V, Richter J, Sauter G, Moch H, Minola E, Gambacorta M, Bianchi L, Vecchione R, Terracciano LM (2000) Marked genetic similarities between hepatitis B virus-positive and hepatitis C virus-positive hepatocellular carcinomas. *J Pathol*. 192(3):307-12.
6. Di Tommaso L, Franchi G, Park NY, Fiamengo B, Destro A, Morengi E, Montorsi M, Torzilli G, Tommasini M, Terracciano LM, Tornillo L, Vecchione R, Roncalli M. (2007) Diagnostic value of HSP70, glypican 3 and glutamine synthetase in hepatocellular nodules in cirrhosis. *Hepatology*, 45(3): 725-735
7. Di Tommaso L, Destro A, Seok JY, Balladore E, Terracciano L, Sangiovanni A, Iavarone M, Colombo M, Jang JJ, Yu E, Jin SY, Morengi M, Park YN, Roncalli M (2009) The application of a panel of markers (hsp 70, gpc3, gs) in liver biopsies is useful for HCC detection. *Journal of Hepatology*, 50(4): 746-54
8. Noemi R, Novello C, Destro A, Riboldi E, Donadon M, Viganò L, Morengi E, Roncalli M, Di Tommaso L (2018) Phenotypical and molecular changes in nodule in nodule hepatocellular carcinoma with pathogenetical implications. *Histopathology*, 73(4): 601-611
9. Di Tommaso L, Spadaccini M, Donadon M, Personeni N, Elamin A, Aghemo A, Lleo A (2019) Role of liver biopsy in hepatocellular carcinoma. *World J Gastroenterol*, 25:6041-6052
10. Renne SL, Woo HY, Allegra A, Rudini N, Yano H, Donadon M, Viganò L, Akiba J, Lee HS, Rhee H, Park YN, Roncalli M, Di Tommaso L (2020) VETC (vessels encapsulating tumor clusters) is a powerful predictor of aggressive hepatocellular carcinoma. *Hepatology*, 71(1):183-195